DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

MAINTENANCE DREDGING INCLUDING ADVANCED MAINTENANCE
CANAVERAL HARBOR
BREVARD COUNTY, FLORIDA

FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) of the proposed action. This Finding incorporates by reference all discussions and conclusions contained in the Environmental Assessment attached hereto. Based on information analyzed in the EA, reflecting pertinent information obtained from other agencies and special interest groups having jurisdiction by law and/or special expertise, I conclude that the proposed action will have no significant impact on the quality of the human environment. Reasons for this conclusion are, in summary:

1. The proposed work would not jeopardize the continued existence of any endangered or threatened species.

2. The State Historic Preservation Officer concurred with the U.S. Army Corps of Engineers' determination that there would be no effect on sites of cultural or historical significance.

3. State water quality standards will be met.

4. The proposed project has been determined to be consistent with the Florida Coastal Zone Management Program.

5. Measures to eliminate, reduce, or avoid potential impacts to fish and wildlife resources will be implemented during project construction.

6. Benefits to the public will be maintenance of the navigation channel and continued local economic stimulus.

In consideration of the information summarized, I find that the proposed action will not significantly affect the human environment and does not require an Environmental Impact Statement.

05 FEBRUARY 1999
Date

JOE R. MILLER
Colonel, Corps of Engineers
Commanding

JANUARY 1999

MAINTENANCE DREDGING
CANAVERAL HARBOR
BREVARD COUNTY, FLORIDA

ENVIRONMENTAL ASSESSMENT

US Army Corps
of Engineers
Jacksonville District
South Atlantic Division

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1. Purpose and Need for Action

1.1 Introduction.

The Jacksonville District, US Army Corps of Engineers is the responsible federal agency for maintaining Canaveral Harbor, Florida. Certain areas of the harbor develop shoals and impede the navigable capacity of the channel. The harbor has been previously dredged and the material has been placed on the beach near the Inlet. An additional depth has been proposed for dredging, in order to reduce the long-term costs associated with maintenance dredging of the channel. In order to meet the public need as authorized by Congress, the Federal standard must be maintained. The purpose of disposing in the nearshore area is to keep beach quality material within the littoral drift system.

1.2 Authority.

The Canaveral Harbor was authorized by 2 March 1945, House Document 367, 77th Congress, 1st Session and maintained by authority of 23 October 1926, Senate Document, 140, 87th Congress, 2nd Session. Since the initial maintenance, sand and sediments have periodically accumulated in the channel reducing the navigable capacity of the project. Dredging and disposal have previously been conducted to maintain the channel. The additional 2-foot depth beyond the authorized depth has approved for maintenance by the Division Commander in accordance the attached memorandum (Appendix X).

1.3 Decision to be Made.

The decision to be made is whether to conduct maintenance dredging, dredge the new area and whether to place the material in the nearshore area or in the ODMDS>

1.4 Relevant Issues

a. Water quality
b. Benthos
d. Sea turtles
e. Whales
f. Manatees
g. Historic Properties
h. Aesthetics
i. Recreation
j. Economics
k. Navigation

1.5 Permits Required.

The maintenance dredging and nearshore placement of the dredged material will require a Florida Department of Environmental Protection Water Quality Certification in accordance with the Memorandum of Understanding between DEP and the US Army Corps of Engineers, and in accordance with Section 401 of the Clean Water Act. In addition, the placement of dredged material in the Ocean Dredged Material Disposal Site (ODMDS) requires approval from the Environmental Protection Agency under Section 103 of the Marine Sanctuaries, Research and Protection Act.

1.6 Methodolgy.

An interdisciplinary team used a systematic approach to analyze the affected area, to estimate the environmental effects, and to write the environmental impact assessment. This included literature searches, coordination with agencies and private groups having expertise in particular areas, and field investigations.

2. ALTERNATIVES.

2.1 Introduction.

The alternatives section is the heart of this Environmental Assessment. This section describes in detail the no-action alternative,

the proposed action, and other reasonable alternatives that were studied in detail. Then based on the information and analysis presented in the sections on the Affected Environment and the Probable Impacts, this section presents the beneficial and adverse environmental effects of all alternatives in comparative form, providing a clear basis for choice among the options for the decisionmaker and the public. A summary of this comparison is located in the alternative comparison chart, Table 2.1, page 5. This section has five parts:

a. A description of the process used to formulate alternatives.

b. A description of alternatives that were considered but were eliminated from detailed consideration.

c. A description of each alternative.

d. A comparison of the alternatives.

e. The identification of the preferred alternative.

2.2 History of Alternative Formulation.

During the construction and subsequent maintenance of the existing channel, dredged materials have been placed in numerous locations including adjacent mangrove and emergent wetland areas. Sometimes the dredged material from maintenance was placed in these wetland areas to eliminate the wetland characteristics and allow the newly created fast land for residential and commercial development. As more and more areas became upland residential, no upland sites remained and available disposal options became limited. Beach placement became the only viable option. In addition, the State of Florida also requested that all suitable beach quality material be placed on the beach or in nearshore littoral drift zones.

2.3 Eliminated Alternatives.

With the passage of the Clean Water Act, the placement of dredged material into waters of the United States became more difficult. The State of Florida would not issue water quality certification for placement of this dredged material into these waters. Therefore, the filling of wetlands and the creation of disposal islands were eliminated as alternatives.

2.4 Description of Alternatives.

The only alternative to maintenance dredging is the No Action alternative. Only two alternative disposal options are available other than the No Action alternative; the nearshore area south of the Inlet and the ODMDS.

2.4.1 No Action Alternative.

With this alternative no maintenance dredging or disposal operations would occur.

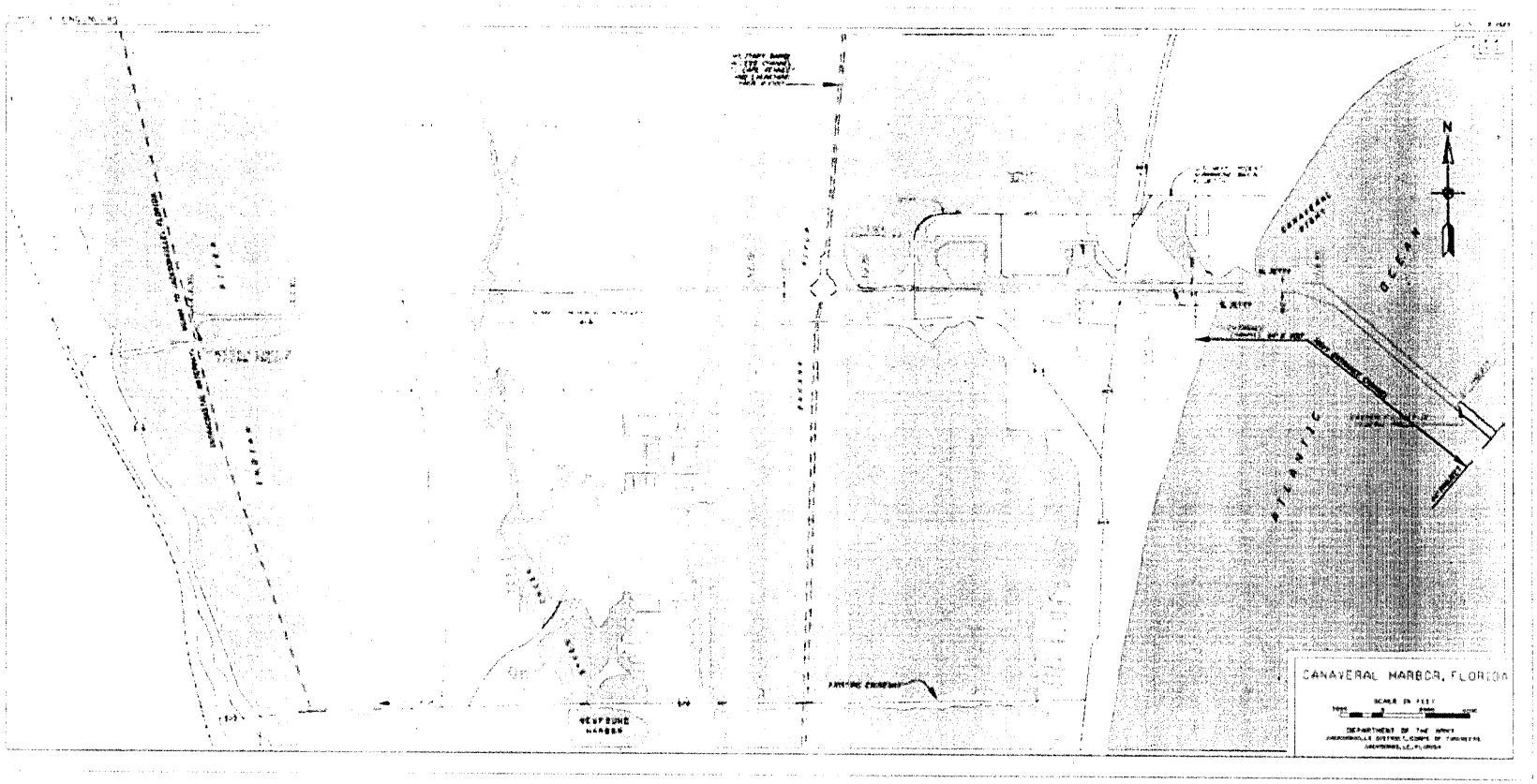
2.4.2 Dredging and Nearshore Placement.

The work consists of dredging the federal navigation channel plus an additional 2-foot of advanced maintenance and placing the material the dredged material in the nearshore placement area. The impacts to manatees would be mitigated by the implementation of the standard manatee protection conditions (Appendix II). Impacts to sea turtles would be mitigated by the restriction of the use of hopper dredges in this harbor. Impacts to whales would be mitigated by the Implementation and participation in the Early Warning System which locates whales in the area and makes

this information available to working vessels in order to avoid the area.

2.4.3 Dredging and ODMDS Placement.

The work consists of dredging the federal navigation channel plus an additional 2-foot of advanced maintenance and placing the material the dredged material in the ODMDS area. The impacts to manatees would be mitigated by the implementation of the standard manatee protection conditions (Appendix II). Impacts to sea turtles would be mitigated by the restriction of the use of hopper dredges in this harbor. Impacts to whales would be mitigated by the Implementation and participation in the Early Warning System which locates whales in the area and makes this information available to working vessels in order to avoid the area..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CANAVERAL HARBOR, FLORIDA

2.5 ALTERNATIVE COMPARISON.

Table 2.1, Alternative Comparison

RESOURCES	NO ACTION	DREDGING AND NEARSHORE PLACEMENT	DREDGING AND ODMDS
Water Quality	No impacts.	Minor short-term increase in turbidity at dredge site and from return water along the beach.	Minor short-term increase in turbidity at dredge site and from return water along the beach.
Navigation	Major decrease in navigable capacity of the channel.	Major long-term benefit to navigation.	Major long-term benefit to navigation.
Benthos	No impact.	Minor long-term reduction of benthos at the dredging site and disposal site.	Minor long-term reduction of benthos at the dredging site and disposal site
Manatees	No impact.	No impact with inclusion of special manatee protection conditions in contract.	No impact with inclusion of special manatee protection conditions in contract.
Whales	No impact.	No impact.	No impact.
Sea turtles	No impact..	Medium long-term benefit from the maintenance of turtle nesting areas.	Medium long-term benefit from the maintenance of turtle nesting areas.
Historic Properties	No effect.	No adverse effect.	No adverse effect.
Recreation	No Impact.	No Impact	No Impact
Aesthetics	Minor long term reduction in the aesthetics from the loss of beach.	Major short-term impact from the presence and operation of construction equipment on the beach.	Major short-term impact from the presence and operation of construction equipment on the beach.
Economics	Minor long-term economic impact from reduction in tourism due to loss of beach.	Medium short-term impact on the local economy from the sale of goods and services in support of the construction.	Medium short-term impact on the local economy from the sale of goods and services in support of the construction.

2.6 PREFERRED ALTERNATIVE.

Both disposal alternatives are environmentally acceptable. The selected alternative would be dependent upon the quality of the dredged material.

3. AFFECTED ENVIRONMENT.

3.1 INTRODUCTION.

The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that would affect or that would be affected by the alternatives if they were implemented. This section, in conjunction with the description of the "no-action" alternative forms the base line conditions for determining the environmental impacts of the proposed action and reasonable alternatives. The environmental issues that are relevant to the decision to be made are the following:

a. Water quality.

b. Navigation.

c. Benthos

d. Manatees.

e. Whales.

f. Sea turtles

g Historic Properties.

h. Recreation.

i. Aesthetics.

j. Economics.

3.2 GENERAL DESCRIPTION.

Canaveral Harbor is located in Brevard County on the east coast of Florida. The navigation channel at Canaveral Harbor serves Port Canaveral, the U. S. Air Force, and the U. S. Navy Trident Submarine facility. The entrance channel is constructed through a barrier island that separates the Atlantic Ocean from the Banana River. The Banana River is bounded on the west by Merritt Island, which is separated from the mainland by the Indian River. The Banana and Indian Rivers are shallow, tidal lagoons, except for portions maintained for navigational purposes. The Port of Canaveral is an artificial cut through the Canaveral peninsula to the Banana River. The Cape Canaveral Air Force Station borders the north side of the harbor, while private development controls the south side of the port. Portions of the Air Force Base remain relatively undisturbed with dense growth and small marsh lowlands.

Port Canaveral was constructed on filled land and wetlands between the Atlantic Ocean and the Banana River. The eastern end of the port is occupied by military facilities on the northern side and a public park and cruise ship docks on the south side. The central section of the port contains commercial structures including oil storage,. cement transfer facilities, coal storage, general warehousing, and commercial fish processors. Fish houses and a marina are located at the western end of the port

Disposal Sites.

a. Nearshore: Material is to be placed in water approximately 20 to 26 feet deep offshore of Cocoa Beach between DNR monuments R-28 and R-38. The material is expected to slow the rate of erosion along this part of the beach and to migrate onto the beach in several years. The disposal site is a nearshore area located approximately 200 feet from the shoreline and exposed to the tidal ebb and flow and lateral shoreline downdrift. The disposal area has a silty bottom with faunal composition expected on a shallow-bottom area.

b. Ocean Dredged Material Disposal Site (ODMDS): EPA designated ocean disposal site October 22, 1990. This site has been used in the past for disposal of material from Canaveral Harbor. The site lies about 3.2 miles offshore east of Canaveral, Florida in water ranging in depth from 40 to 50 feet. The site covers an area fof approximately 4.0 square nautical miles and has approximate center coordinates of 28°18'42"N and 80°31'00"W. Sediment samples from the Canaveral Entrance Channel have been evaluated under Section 103 and found to be suitable for ocean disposal.

3.3 RELEVANT ISSUES.

3.3.1 Physical.

a. Water quality. Reference Department of Environmental Protection Water Quality Certificate No. 052605239 for Maintenance Dredging Canaveral Harbor, Entrance and Inner Channel and Middle Turning Basin issued on Jan 9, 1996 and scheduled to expire on Jan 9, 2006. This permit allows for nearshore disposal of sandy material (less than 20% silt content and free from pollutant residue) from Port Canaveral channel. The work will meet all applicable State and Federal water quality standards during the time of construction.

3.3.2 Biological.

a. Benthos. Benthos in the channel and along the beach would likely consist of worms and clams. There are no hardbottoms for colonization by algae.

b. Manatees.
The Florida manatee, *Trichechus manatus*, is a federally-listed endangered species. The harbor area is listed as critical habitat for the manatee. They use the estuary for feeding, resting and traveling

c. Whales.
The right whale is known to calf during the months of November through April in the vicinity of the Georgia/Florida line. An occasional female right whale travels as far south as the waters of the Atlantic Ocean near the Canaveral Harbor navigation channel

e. Sea turtles.
Sea turtles are common in the Canaveral Harbor channel. The

Corps and the National Marine Fisheries Service (NMFS) have collected data on turtles in the Canaveral channel since 1978. The most abundant species of turtle present in the channel is the loggerhead, followed by the green, and finally the Kemp's ridley. The most comprehensive analysis of field data was conducted by NMFS on loggerheads in the Canaveral Harbor area. During seven years of data collection, 3,132 turtles were collected, of which 82% were subadults, 9% were adult females, and 9% were adult males (Henwood, 1987). Adult males were most abundant in April and May, adult females in May to July, and subadults constituted over 80% of the population during the remainder of the year.

3.3.3 Social.

a. Historic Properties. An archival and literature review, including a review of the current National Register of Historic Places listing and consultation with the Florida State Historic Preservation Officer (SHPO), was conducted to determine if significant cultural resources are present in the project area. No significant archeological sites or historic properties are recorded in the project area, and the area is judged to have little potential for containing significant cultural resources. In a letter dated September 16, 1987, the SHPO recommended that no further cultural resources investigations are necessary for the maintenance dredging project. The proposed near shore disposal will not have adverse affect on cultural resources. The SHPO concurred with this determination in a March 25, 1992 letter.

b. Recreation. No recreation occurs within the navigation channel. However, a community park is located adjacent to the mouth of the entrance to the south side along the jetty. Fishing and sunbathing are the main activities..

c. Aesthetics. The aesthetics of the area are a mixture of industrial, military and public recreation typical of a harbor area.

3.3.4 Economics.

a. Navigation. The navigation channel at Canaveral Harbor serves Port Canaveral, the U.S. Air Force, and the U.S. Navy Trident Submarine facility. The entrance channel is constructed through a barrier island that separates the Atlantic Ocean from the Banana River. The Banana River is bounded on the west by Merritt Island, which is separated from the mainland by the Indian River. Port Canaveral was constructed on filled land and wetlands between the Atlantic Ocean and the Banana River. The eastern end of the port is occupied by military facilities on the northern side and a public park and cruise ship docks on the south side. The central section of the port contains commercial structures including oil storage, cement transfer facilities, coal storage, general warehousing,

and commercial fish processors. Fish houses and a marina are located at the western end of the port. Our National Defense relies heavily on the federal navigation channel being properly maintained.

b. Economics. The navigation channel allows for the recreational and small commercial boat traffic in the area. The sale of goods and services to support these craft; i.e., marinas, dry storage, fuel docks, grocery store, and bait and tackle shops, support the local economy. Personnel of US Navy Trident Submarine Facility and Cape Canaveral Air Force Station located in the near vicinity provide a great boost to the local economy. Contracts for goods and services to support these Federal facilities also generate high revenue for the area.

4. ENVIRONMENTAL CONSEQUENCES.

4.1 INTRODUCTION.

This section describes the probable consequences of implementing each alternative on selected environmental resources. These resources are directly linked to the relevant issues listed in Section 1.4 that have driven and focus the environmental analysis. The following includes anticipated changes to the existing environment including direct and indirect impacts, irreversible and irretrievable commitment of resources, unavoidable effects and cumulative impacts.

4.1.1 Cumulative Impacts.

Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR 1508.7).

4.1.2 Irreversible and Irretrievable Commitment of Resources.

a. Irreversible. An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. One example of an irreversible commitment might be the mining of a mineral resource.

b. Irretrievable. An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. An example of an irretrievable loss might be where a type of vegetation is lost due to road construction.

4.2 NO ACTION ALTERNATIVE

4.2.1 Physical.

a. Water quality. There would be no impact on water quality.

4.2.2 Biological

a. Benthos. There would be no impact on benthos.

b. Manatees. There would be no impact on manatees.

c. Whales. There would be no impact on whales.

d. Sea turtles. There would be no impacts on sea turtles.

4.2.3 Social.

a. Historic Properties. There would be no affect on historic properties included in or eligible for inclusion in the National Register of Historic Places.

b. Recreation. There would no impacts on recreation from this alternative.

c. Aesthetics. There would be no impacts on aesthetics from this alternative.

4.2.4 Economic.

a. Navigation. There would be a long-term major impact on navigation from the decrease in navigable capacity of the channel.

b. Economics. There would be a long-term impact on economics from the reduction in revenues attributed to the loss of navigable capacity of the channel.

4.2.5 Cumulative effects.

If this action was considered in conjunction with other similar projects and similar No Actions, there would be a substantial adverse impact on navigation and economics of the State of Florida.

4.2.6 Unavoidable effects.

There would be an eventual loss of navigable capacity of the waterway from the continual sedimentation of the channel .

4.2.7 Irreversible and Irretrievable Resource Commitments.

There would be no irreversible or irretrievable commitment of resources from the selection of this alternative.

4.3 DREDGING AND NEARSHORE PLACEMENT

4.3.1 Physical.

a. Water quality. There would be a minor short-term increase in turbidity at the dredging site and the nearshore placement area.

4.3.2 Biological

a. Benthos. The benthic organisms at the dredging site would be eliminated. This area would be rapidly recolonized by the organisms that can be moved by tidal flows from adjacent areas. Crustaceans and clams would take longer to re-enter the area. The benthic organisms would be covered and smothered by the placement of material in the littoral zone. The organisms in the dredged material would help recolonize the littoral area.

b. Manatees. The auxiliary vessels associated with the dredging operation could impact manatees. In order to reduce this impact, the standard state and Federal manatee protection conditions would be implemented. Included in these conditions are an education